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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/826,811

04/16/2004

Rajiv R. Singh

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EXAMINER

WEBB, GREGORY E

ART UNIT

PAPER NUMBER

1751

MAIL DATE

DELIVERY MODE

07/23/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/826,811	<b>Applicant(s)</b> SINGH ET AL.	
	<b>Examiner</b> Gregory E. Webb	<b>Art Unit</b> 1751	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) 1-41 is/are pending in the application.  
     4a) Of the above claim(s) 16, 17, 37 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) 21-38 is/are allowed.
- 6) ☐ Claim(s) 1, 4-15 and 18-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. The applicant has elected group I without traverse. The examiner incorrectly listed claims in group 1 and should have included additional claims in this group. As the examiner is not further restricting the claims, no response is required.
2. Group I now includes the following claims: 1-15, 18-36, and 39-41. Additional claims include composition claims 21-35.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000.

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Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Brown et al (US 20070040147 A1).

5. Brown teaches azeotropic compositions containing difluoroethane and secondary ingredients for use as a refrigerant.

6. Brown teaches the inclusion of various ingredients including trifluoriodomethane as a flame retardant (see claim 14). Brown further teaches the inclusion of additives such as lubricants and stabilizers (see paragraph 34).

7. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Flohr et al (US 20060202154 A1)

8. Flohr teaches azeotropic composition containing carbon dioxide and additional fluoro compounds including the claimed 1,1-difluoroethane and trifluoriodomethane (see claim 2).

9. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Waldrop et al (US 20050145820).

10. Waldrop teaches azeotropic compositions containing 1,1-difluoroethane blended with trifluoriodomethane in ranges of percentages overlapping those of the applicant's claims (see paragraph 33).

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11. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Nimitz (US 7,083,742).

12. Nimitz teaches compositions containing fluoroiodocarbons blended with hydrocarbons. Nimitz identifies trifluoroiodomethane as a preferred fluoroiodocarbon (see table 3).

13. Nimitz further identifies preferred additives to be mixed with the fluoroiodocarbon includes 1,1-difluoroethane as a preferred hydrofluorocarbon (see table 4).

14. In table 5, Nimitz exemplifies an azeotrope containing the required trifluoroiodomethane and difluoroethane (see example 12).

15. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Nimitz (US 6,270,689).

16. Nimitz teaches azeotropic compositions containing 25-50% difluoroethane and 25-45% trifluoroiodomethane (see abstract).

17. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by MATSUSHITA DENKI SANGYO KK [MATU] (JP11199863)

18. '863 teaches in column 4 a variety of compositions containing the HFC-152a in combination with various amounts of CF3I including ranges defined by applicant.

19. Claims 1, 4-15, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoshida et al (JP 09059612A)

20. Yoshida teaches compositions containing various amounts of R152a, R32 and the trifluoroiodomethane including ranges overlapping those of applicant's.

### ***Allowable Subject Matter***

21. Claims 21-36 as well as the restricted method claims depending therefrom (claims 37 and 38) are allowed. Although the prior art teaches the R152a and the CF<sub>3</sub>I in combination, the addition of the HFO-1234 was not found in the prior art. Nor would it have been obvious to choose this specific fluorinated compound from the millions of possible fluorinated compounds possible. As such these claims are found to be allowable.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory E. Webb whose telephone number is 571-272-1325. The examiner can normally be reached on 9:00-17:30 (m-f).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglass McGinty can be reached on (571)272-1029. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Gregory E. Webb  
Primary Examiner  
Art Unit 1751

gew